

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTIONS OF MD 650 (NEW HAMPSHIRE AVE.) AND MD 193 (UNIVERSITY BLVD), MD 650 AND LANGLEY PARK SHOPPING CENTER, MD 650 AND TAKOMA/LANGLEY/HAMPSHIRE LANGLEY SHOPPING CENTERS, MD 193 AND LANGLEY CROSSROADS/HAMPSHIRE LANGLEY SHOPPING CENTERS, MD 193 AND ENTRANCE TO TAKOMA/LANGLEY CROSSROADS/HAMPSHIRE LANGLEY SHOPPING CENTERS, MD 650 AND MERRIMAC DRIVE AND MD 650 AND LEBANON STREET IN PRINCE GEORGES COUNTY. MD 650 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION. MD 193 IS ASSUMED TO RUN IN A EAST-WEST DIRECTION.

INTERSECTION OPERATION

1. MD 650 (NEW HAMPSHIRE AVENUE) AND MD 193 (UNIVERSITY BOULEVARD)

THE INTERSECTION WILL OPERATE IN A NEMA EIGHT-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 650 APPROACHES OPERATING CONCURRENTLY AND THE MD 193 APPROACHES OPERATING CONCURRENTLY. EXCLUSIVE LEFT-TURN PHASING IS PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 650 AND EASTBOUND AND WESTBOUND MD 193 APPROACHES.

ALTERNATE PEDESTRIAN PHASES ARE PROVIDED ACROSS BOTH LEGS OF MD 650 AND MD 193.

2. MD 650 (NEW HAMPSHIRE AVENUE) AND LANGLEY PARK SHOPPING CENTERS/BUSINESS PARK ENTRANCE

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 650 APPROACHES OPERATING CONCURRENTLY AND THE SHOPPING CENTER ENTRANCE/BUSINESS PARK ENTRANCE APPROACHES OPERATING SPLIT.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE MD 650 SOUTHBOUND APPROACH.

ALTERNATE PEDESTRIAN PHASES ARE PROVIDED ACROSS BOTH LEGS OF MD 650 AND THE SHOPPING CENTER ENTRANCE/BUSINESS PARK ENTRANCE.

3. MD 650 (NEW HAMPSHIRE AVENUE) AND TAKOMA/LANGLEY/HAMPSHIRE LANGLEY SHOPPING CENTERS

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 650 APPROACHES OPERATING CONCURRENTLY AND THE SHOPPING CENTER ENTRANCES APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE MD 650 NORTHBOUND APPROACH.

ALTERNATE PEDESTRIAN PHASES ARE PROVIDED ACROSS BOTH LEGS OF MD 650 AND BOTH SHOPPING CENTER ENTRANCES.

4. MD 193 (UNIVERSITY BOULEVARD) AND LANGLEY CROSSROADS/HAMPSHIRE LANGLEY SHOPPING CENTERS

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 193 APPROACHES OPERATING CONCURRENTLY AND THE SHOPPING CENTER ENTRANCES APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE MD 193 WESTBOUND APPROACH.

ALTERNATE PEDESTRIAN PHASES ARE PROVIDED ACROSS BOTH LEGS OF MD 193 AND BOTH SHOPPING CENTER ENTRANCES.

5. MD 193 (UNIVERSITY BOULEVARD) AND TAKOMA/LANGLEY CROSSROADS/HAMPSHIRE LANGLEY SHOPPING CENTERS

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 193 APPROACHES OPERATING CONCURRENTLY AND THE SHOPPING CENTER ENTRANCES APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE MD 193 EASTBOUND APPROACH.

ALTERNATE PEDESTRIAN PHASES ARE PROVIDED ACROSS BOTH LEGS OF MD 193 AND BOTH SHOPPING CENTER ENTRANCES.

6. MD 650 (NEW HAMPSHIRE AVENUE) AND MERRIMAC DRIVE

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 650 APPROACHES OPERATING CONCURRENTLY AND THE MERRIMAC DRIVE APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING WILL BE PROVIDED FOR THE NORTHBOUND AND SOUTHBOUND MD 650 APPROACHES.

ALTERNATE PEDESTRIAN PHASES WILL BE PROVIDED ACROSS BOTH LEGS OF MD 650 AND BOTH LEGS OF MERRIMAC DRIVE.

7. MD 650 (NEW HAMPSHIRE AVENUE) AND LEBANON STREET

1. NORMAL OPERATION

THE INTERSECTION WILL OPERATE IN A FLASHING MODE.

2. SPECIAL OPERATION

THE INTERSECTION WILL OPERATE AS INDICATED ABOVE, UNLESS A PUSHBUTTON IS ACTIVATED WHICH WILL STOP ALL APPROACHES.

CONTROLLER REQUIREMENTS

1. MD 650 (NEW HAMPSHIRE AVENUE) AND MD 193 (UNIVERSITY BOULEVARD)

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

2. MD 650 (NEW HAMPSHIRE AVENUE) AND LANGLEY PARK SHOPPING CENTERS/BUSINESS PARK ENTRANCE

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

3. MD 650 (NEW HAMPSHIRE AVENUE) AND TAKOMA/LANGLEY/HAMPSHIRE LANGLEY SHOPPING CENTERS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

4. MD 193 (UNIVERSITY BOULEVARD) AND LANGLEY CROSSROADS/HAMPSHIRE LANGLEY SHOPPING CENTERS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

5. MD 193 (UNIVERSITY BOULEVARD) AND TAKOMA/LANGLEY CROSSROADS/HAMPSHIRE LANGLEY SHOPPING CENTERS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

6. MD 650 (NEW HAMPSHIRE AVENUE) AND MERRIMAC DRIVE

THE EXISTING POLE MOUNTED CABINET AND CONTROLLER WILL BE USED.

7. MD 650 (NEW HAMPSHIRE AVENUE) AND LEBANON STREET

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
917017	6 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
963010	4 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
900000	1 EACH	TRAFFIC RESPONSIVE MASTER CONTROLLER
900000	5 EACH	VIDEO INTERFACE EQUIPMENT: 1-4 CAMERAS
973023	△ 509-503 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 12 EACH D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT - 2 EACH D-3(1) SIGN (VARIABLE x 16 IN.) - POLE MOUNT - 1 EACH R3-1 SIGN (30 IN. x 30 IN.) - MAST ARM MOUNT - 7 EACH R3-5L SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT - 3 EACH R3-5R SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT - 2 EACH R3-6 SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT - 1 EACH R3-3(2) SIGN (30 IN. x 30 IN.) - MAST ARM MOUNT - 48-50 EACH R10-4(1) SIGN (9 IN. x 12 IN.) - POLE MOUNT - 1 EACH R95-11(1) SIGN (24 IN. x 30 IN.) - MAST ARM MOUNT - 2 EACH S2-1(2) MODIFIED SIGN (96 IN. x 36 IN.) - MAST ARM MOUNT - 2 EACH W11-2 SIGN (30 IN. x 30 IN.) - MAST ARM MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 650, RIGHT ARROW" (30 IN. x 51 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 650, LEFT ARROW" (48 IN. x 75 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 650, RIGHT ARROW" (30 IN. x 51 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 650, LEFT ARROW" (48 IN. x 75 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "EAST, MD 193, RIGHT ARROW" (30 IN. x 51 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "EAST, MD 193, LEFT ARROW" (48 IN. x 75 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "WEST, MD 193, RIGHT ARROW" (30 IN. x 51 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "WEST, MD 193, LEFT ARROW" (48 IN. x 75 IN.) - POLE MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

ALL REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

SEE MAINTENANCE OF TRAFFIC PLANS

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. JEFF WENTZ, MONTGOMERY  
PHONE: (301) 513-7368  
ASSISTANT DISTRICT ENGINEER - TRAFFIC

MR. WAYNE MOWDY  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (301) 513-7304

MR. AUGIE REBISH  
DISTRICT UTILITY ENGINEER  
PHONE: (301) 513-7350

MONTGOMERY COUNTY TMC  
PHONE: (240) 777-8761

MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

△ REVISED QUANTITIES  
ADDENDUM NO.1  
8/ /06

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
120500	LUMP SUM	MAINTENANCE OF TRAFFIC
203030	△ 52-53 C.Y.	TEST PIT EXCAVATION
585260	△ 4700-4900 L.F.	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585624	1050 L.F.	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
801003	△ 117-140 C.Y.	CONCRETE FOR SIGNAL FOUNDATION
802501	3510 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805125	570 L.F.	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805135	500 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	475 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805150	1400 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
805155	1475 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
805160	30 L.F.	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
807202	3 EACH	METERED SERVICE PEDESTAL
807400	3 EACH	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS
810010	395 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG-THHN/THWN
810601	3 EACH	NONINVASIVE DETECTOR, 500 FOOT LEAD IN CABLE
810605	3 EACH	NONINVASIVE DETECTOR, 1,000 FOOT LEAD IN CABLE
811001	43 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813015	△ 509-503 S.F.	INSTALL OVERHEAD SIGN
816001	16 EACH	VIDEO DETECTION CAMERA
816005	6 EACH	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
816010	10 EACH	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818004	△ 36-37 EACH	10 FOOT BREAKAWAY PEDESTAL POLE
818010	1 EACH	14 FOOT BREAKAWAY PEDESTAL POLE
818021	1 EACH	STEEL POLE WITH TWIN 50 FOOT MAST ARM
818050	1 EACH	STEEL POLE WITH TWIN 50 FOOT AND 60 FOOT MAST ARMS
822002	3300 L.F.	12-PAIR COMMUNICATION CABLE, JELLY-FILLED (UNDERGROUND)
837001	△ 70-74 EACH	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	216 EACH	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860292	10 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861104	1170 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861105	△ 8420-8920 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	△ 10350-10950 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	9365 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
862101	2450 L.F.	LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
862102	635 L.F.	SAW CUT FOR SIGNAL (LOOP DETECTOR)
871202	6 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
800000	10 EACH	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	△ 48-50 EACH	16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION
800000	△ 48-50 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION
800000	7 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON BASE UNIT
800000	2 EACH	16.5 FT. "T" POLE WITH A SINGLE 38 FT. MAST ARM
800000	2 EACH	16.5 FT. "T" POLE WITH A SINGLE 50 FT. MAST ARM
800000	4 EACH	16.5 FT. "T" POLE WITH A SINGLE 60 FT. MAST ARM
800000	1 EACH	16.5 FT. "T" POLE WITH A SINGLE 70 FT. MAST ARM
800000	1 EACH	16.5 FT. "T" POLE WITH TWIN 50 FT./50 FT. MAST ARMS
800000	2 EACH	16.5 FT. "T" POLE WITH TWIN 50 FT./60 FT. MAST ARMS
800000	2 EACH	16.5 FT. "T" POLE WITH TWIN 50 FT./70 FT. MAST ARMS
800000	700 L.F.	CABLE 1-CONDUCTOR, 250 KCML, CU, USE 600V

TSP-16



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET

MD 650 AND MD 193 SIGNALS

DRAWN BY: S. BLOSS  
CHECKED BY: N. LEARY  
SCALE: NONE  
DATE: 7/24/2006

F.A.P. NO.  
S.H.A. NO. M03375/84  
COUNTY: MONTGOMERY  
LOG MILE:

TS NO.  
SHEET NO.  
6237 52 OF 69



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